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CARE OF THE TEETH

By JOHN LAURENCE KELLY, D.M.D., Chicago, Ill.

**Necessity for Care of the Whole Mouth—Universality of Foul Mouths—
Inadequacy of the Tooth Brush—Harmfulness of Its Use—
A Better Method—Prevention of Calcific Deposits and
of Caries—Technique of the Operation—Care
of the Mouth Aside from the Teeth—
Technique of This Operation**

In the article below Dr. Kelly has taken a decided stand and one totally at variance with the usual and accepted teaching and practice. Do not condemn his plan untried. It is easy to say that patients will not take the trouble to do all he asks, but there are many who will. After all, it is but the application of modern prophylactic practice by the patient instead of by the specialist. Personally, I think the patient should still be encouraged to use a tooth brush, with the rotary motion, between these self-administered treatments, for comfort's sake and the desire for a pure breath, if for no other reason.

The necessity for the care of the oral cavity is greater than is generally supposed. We are taught that we should aim to keep the *teeth* clean, because so much depends upon having good teeth, but it is more important to keep the *oral cavity* clean, as it is impossible to get good results unless all parts of it are considered. The teeth are the most important part and also the most difficult to keep clean, therefore I shall consider them first.

The objects in caring for the teeth are general and local health, because the health of the body depends more on the

health of the teeth than is generally conceded. Moreover, the teeth are necessary for perfect enunciation in speech and song, and add grace and value to our efforts. Many orators and vocalists, who could add to the wisdom and beauty of the hearer have been hampered by poor teeth, and this is true in a lesser degree of all who have abnormal conditions through lack of development or decay of the teeth. The injury as a local deterrent is very great, but measureless in its early power on the system.

When the slightest eruption of the skin occurs, from no

matter what cause, we begin treatment for it; and if it doesn't heal in a short time we consult a physician, and if he fails to get results we are thoroughly aroused and seek a specialist without delay, but with the mouth it is quite the reverse. *Not one person in twenty after the age of thirty has a mouth in a healthy condition, and not one in ten has a mouth free from pus at any time.* We wash our bodies once a day; our faces and hands several times, but our mouths are cleaned only once or twice a year, that is, the mouths of those of us who can afford to have a dentist do it. Even then it is seldom well done because, as a rule, dentists do not care for that work, as people usually are not willing to pay for having it done thoroughly. The finger nails are not nearly so important as the teeth, but they are given a hundred times more care, and were it a question of losing them or mastering the art of manicuring, we would all be professionals in that art and would be willing to spend a half hour a day polishing and rubbing them if they should need it. And the hair: Who would not be willing to spend several hours a week brushing and combing the hair if it was understood that neglect meant losing it? This same contention may apply to any part of the body except the teeth. If we suggest that the teeth require several hours a week in order to preserve them, at first the people are amused at the idea

of spending so much time, but when they learn the importance of this work and the small amount of effort it requires to master the art, I believe not many will neglect learning it, and will think the time required well spent, though it means from one to two hours per week. We attempt to clean the teeth with a tooth brush and the great majority of us agree that it is all sufficient for the purpose for the same reason that we thought for so many years that the world was flat because we did not try to prove to the contrary.

Dentists who are conscientious and have given the matter some study agree and succeed in convincing many others that it is a matter of using the correct brush correctly. Still these same men declare that if the teeth are kept clean they will not decay nor will we have pyorrhoea and many other abnormal conditions that most of us experience before we have lived forty years. The fact of the matter is, it is impossible to clean the teeth with any brush no matter how skillfully it is manipulated. Even where we have a dental engine and all sizes and shapes of brushes we are unable to clean the teeth satisfactorily, as it is impossible to polish between the teeth and underneath the free margins of the gums without cutting the former and lacerating the latter. The dentist who understands prophylactic work does not depend on a brush because he knows by

experience that it is impossible to polish and clean the teeth with it.

When this subject is spoken of there is a great deal said about the necessity of caring for the teeth properly, but only one method generally advised—a good brush used in a certain way with mouth wash, powder or paste.

The object generally conceded for taking care of the teeth is their preservation, as we all agree that if the teeth are thoroughly cleaned once or twice a week decay will not occur, because it requires several weeks for the caries fungus to penetrate the enamel. We also know that the brush cannot be made to reach the places where the teeth decay the most, at the gum margins and interproximal spaces. After it has been used for some time the continuous pushing of it against the gum margins has caused recession of the gums, and in the most prominent places near the necks of the teeth notches have been cut. If the brush causes recession of the gums and cuts the teeth it should be enough to condemn it, but aside from that it is impossible to clean the teeth with it even if it did not have the other two objectionable features. It should not be used as it is impossible to do any good by using it, and equally impossible to use it without doing harm; another objection being that it is a very uncleanly instrument, as it is composed of animal matter and so constructed that it

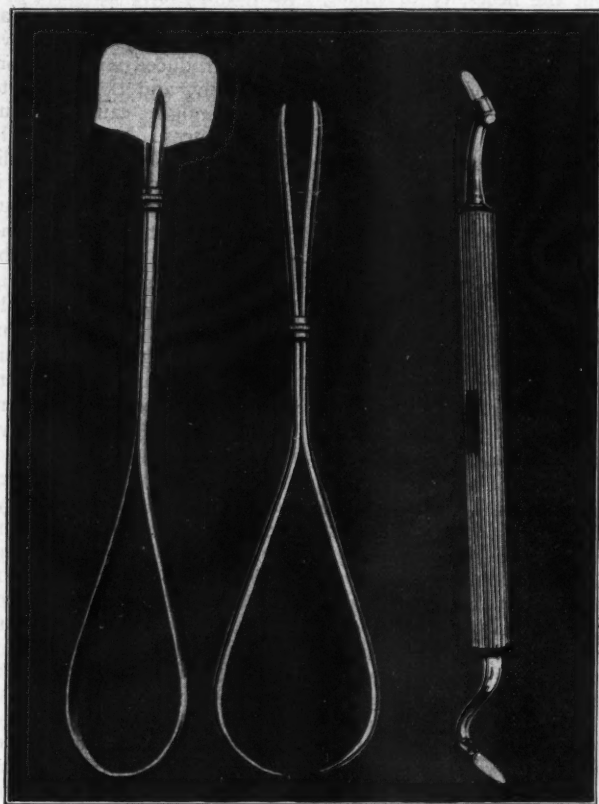
is only possible to sterilize it by burning it.

If you have a sliver in your finger, the first thing to be done is to remove the sliver; then if we have an antiseptic it is well to apply it, as poisonous bacteria may have been introduced with the foreign body, and if allowed to remain might cause serious consequences. No one would think of applying the medicine with the hope that it would in some mysterious way force out the sliver, and certainly no one would be led to believe that any drug applied to the surface would prevent more slivers from entering the fingers if we persisted in putting our fingers against surfaces where there were slivers. But we have been and are still being duped, both in and out of the profession, for dentists are trying and depending upon certain drugs for the cure and prevention of diseases of the teeth and mucous surfaces when, if they are kept clean, medicine would be superfluous. Neither dentists nor the laity believe that the brush is much good, but they feel that they should do something, and therefore commit the double error of wasting their efforts and injuring their teeth and probably their health.

We are asked to recommend a tooth powder, paste or liquid. The manufacturers make it very easy for us to introduce their goods. They send capable, high salaried men to teach us the merits of

them. They select men of accomplishments, men who can make you color blind and succeed in convincing many that their goods will do things

course, if the dentist consents to the virtue of any given preparation he is presented with all of that particular brand he can use at home



Mouth Swab With and Without Cotton Roll. Porte Polisher with Wooden Pegs. These Are Fashioned Concave from Side to Side to Fit Cervix of Tooth.

that it is absurd to credit them with. Our patients get this education transmitted to them, done up in a sample package with all directions for its use and qualities. Of

and at his office, and enough to go around to many of his friends, and the manufacturer gets cheap and effective advertising. But there are so many different brands, for all

of which is claimed the same power, only in different ways, and they are all being used extensively, but not one of them so far as I can learn has lessened decay, prevented, helped or cured pyorrhoea, so I think it is about time for us to use some common sense and learn to clean our teeth and not be following the more common method, what may be termed *common notions*, the counterfeit of common sense.

In the process of learning anything a certain amount of uninteresting efforts are generally necessary, but for many reasons this is experienced less in learning the care of your teeth than in anything I know of. In the first place, there is so much at stake. The preservation of the teeth and, to a great extent, the health of the entire system depends on this being done systematically and intelligently. The one thing that makes effort in any direction interesting is seeing results; and in the care of the teeth as I teach it we can see our results after each and every effort. In caring for them in the usual way it is uninteresting, since we never see our results. But the glaring fact we do observe is failure of any benefit, and in many cases definite harm is unconsciously produced.

Before we begin anything we should have determined the object for doing it, and then seek the simplest and most direct way to accomplish or reach our goal.

In the care of the teeth our

object is to promote general and local health.

The abnormal conditions that arise in the oral cavity, and especially affect the teeth are, first, the formation of calcic deposits, which begin on the neck of the tooth at the junction of the enamel and cementum. The first layers of this deposit cannot be seen by the unaided eye, and before they can be observed it has generally accumulated in masses causing irritation and inflammation which is followed by recession of the gums, and finally loosening of the teeth, the condition known as pyorrhoea alveolaris, or a flowing of pus from the alveolar process, and the final loss of the teeth. In this disease the entire system is affected, due to the person swallowing poisonous material coming from about these neglected teeth, and when we realize that few reach the age of forty years without having experienced this dreadful condition we must acknowledge that our present method and instrument, the tooth brush, are very inadequate and practically useless in the care of the teeth. The second, but not the least abnormal condition, that is generally found at all ages and in all mouths, is decay or rotting away of the teeth, due to the activity of acid secreting fungi which become lodged at the necks of the teeth and between them. According to the best authorities these germs lodge on the teeth and throw out

an excretion which finally covers them, and by the concentration of this excretion which has been incased in this plaque, and which is being continually produced, the enamel rods are dissolved, and the germs enter to the softer material of the tooth, the dentine, which is more easily penetrated because of its construction. The process of decay is very slow at first, requiring several weeks for the formation of these plaques to a harmful degree, but, like the deposits, the plaques cannot be seen unless stained and cannot be removed unless we have an instrument so constructed and of firm enough material to remove them.

For this purpose I have devised an instrument which carries two wooden points so arranged that, after some experience with it, every point of all the teeth may be reached and the first layers of the deposits and caries plaques can be dislodged with slight effort.

For the purpose of staining these foreign materials I use a stain which turns them black, so they are easily located by the naked eye. The disclosing stain also has the virtue of being an antiseptic and a stimulant to the surrounding tissues, and its application once or twice a week, checks the growth of poisonous germs, so it has a double purpose; but when used in conjunction with the wooden points once or twice a week, as the case may require, not only is it possible to pre-

vent pyorrhoea, but caries and other diseases of the oral cavity may be prevented, and in cases where it exists it may be cured after the necessary work by the dentist has been done.

The first thing the patient should learn on the care of the teeth is the location of and amount of foreign material on them. This may be determined by painting the teeth with the disclosing stain as the stain will only adhere at those points where the deposits are, that is, it will not stain the polished surfaces of the teeth; so it is certain when the stain shows that there is a rough surface which should be polished, and foreign material which should be removed. A drop of the stain carried on cotton or a wooden point is sufficient to paint a number of teeth. It should not be allowed to touch the lips and cheeks as that is a waste of it. The object of its use is to direct the eye to the places that need special care, such as the gum line or necks of the teeth, and between them or in the interproximal spaces. When you stain the teeth rinse the mouth at once and examine the teeth that have been stained immediately, as the stain does not remain long. However, it remains long enough for you to locate the places that require attention. Of those realizing the danger of leaving foreign matter on the teeth for long periods and knowing that wherever the stain clings damage is being done to those

particular teeth at those definite points, I believe not many will deliberately allow their teeth to decay at those places.

The cleaning of the teeth consists of polishing those surfaces where the stain adheres until it will not do so. This requires at least one hour not more than twice, and not less than once a week. For the first six months it should be done twice a week. By that time, if directions are carried out, there will not be any exposed surface, either above the gum line or underneath the free margins, where anything will readily adhere. In addition to that the patient will have learned a great deal about his teeth and will be in a position to judge the amount of care his particular case needs. Before the patient takes up his work he should have had instructions from his dentist, and the teeth should have been all polished by the dentist and put in as good a condition as is possible.

When a patient comes to me for dental work I first get the teeth and gums in as healthy a condition as is possible, and instruct the patient at the first sitting how to clean and polish the six lower front teeth. At the next visit the lower bicuspid are added, and at the third the molars. The upper teeth are then treated in the same way, requiring in all six lessons of from one-half to one hour, depending on the condition of the teeth and the efforts of the patient.

Before cleaning the teeth a cotton roll, carried by an instrument made for that purpose, is firmly rubbed over the gum and teeth, removing all easily detached foreign matter from all the exposed surfaces. This may be done in five minutes. Then apply the stain to five or six teeth and polish the stained places with the polisher. This latter is so constructed that it will carry two wooden points at different angles, so arranged that they will reach all surfaces of all the teeth, regardless of their position or angle. This instrument is so made that the points may be turned as desired. The places for retaining the wooden points are tapering openings, and if the points are turned they may be tightened again by simply pressing the wood a trifle further into the openings. The wooden points may be shaped and sharpened by the patient as the case demands. It is not more difficult than sharpening a lead pencil.

In order to see where to polish on the inside, or lingual surfaces of the teeth, the patient should have a mouth mirror which should be used for examining the teeth so as to become acquainted with their surfaces and the application of the polisher. When this has been learned the mirror may be dispensed with, as all surfaces of the teeth can be felt and the instrument directed better in that way. Emphasis should be given to

care in reaching and polishing under the free margin of the gums and on the lingual side of the teeth.

The staining solution is made as follows:

R
 Iodine (crystals).grs. L
 Potassium iodide.grs. XV
 Zinc iodide.....grs. XV
 Glycerin3 IV
 Aqua3 IV M

Put up in glass stoppered bottle.

The care of the teeth and the care of the mouth are two very different operations for entirely different purposes, and should not be confused.

The care of the teeth is for the purpose of preserving them from caries and pyorrhoea and as the carious fungus requires several weeks to become lodged so as to produce decay and the calcic deposit several months to cause pyorrhoea, the systematic and intelligent polishing of the surfaces of all the teeth once or twice a week is all that is necessary to insure them freedom from those conditions. But the care of the mouth generally is quite different, since putrescent material is generally flowing from the sinuses of the head and nose, as well as from diseased tonsils, and food taken into the mouth is contaminated, as is also the air and water. All of this, the food, the air and the water, is incorporated in the mucus that flows out and lines the oral cavity. It is the removal of this mucus two or three times a day that we

should attempt, because by so doing we relieve the system of the extra effort to counteract its effects if this poisonous material is swallowed, as it must be if allowed to remain.

As this mucus covers all surfaces of the oral cavity, all surfaces are equally important to reach, and for this purpose I have devised an instrument that will carry an antiseptic cotton roll to all parts of the mouth without injuring the tissues, and with a small amount of effort. The dry absorbing cotton roll is well adapted for this purpose of cleaning the mouth, as it is soft and may be rubbed over the most delicate surface without injury. It is antiseptic and absorbing; two qualities that are very important, as we seldom find a healthy nose or throat. It is dangerous to allow pathogenic germs to exist in a mouth or throat already depressed by disease, since all that is needed, often, is a trifle more poison to cause serious results. With the antiseptic cotton roll we are at liberty not only to rub all surfaces in the mouth, but it may be passed well back into the throat. Where the tonsils are diseased, as is often the case, the putrescent matter, which may be easily seen in many throats, can, with a little practice, be removed two or three times a day, thus keeping it from being swallowed, as it must be otherwise, and causing indigestion and many other diseased conditions that

man is generally subject to.

These cotton rolls are made purposely to be used by surgeons and dentists in the oral cavity for keeping the parts dry while operating. They are put up in many forms and sizes, but the largest size rolls are best adapted for cleaning the mouth. They may be procured at any dental depot.

The roll is about six inches long and three-quarters of an inch in diameter. In mounting the instrument a piece

about one inch long is cut from the roll and the jaws of the instrument are placed in the center of the roll in its longest and shortest lengths; or, in the center of its length and diameter, as in the picture. In using the roll mounted in the holder it is first passed between the cheeks and the gums and teeth, as in using a tooth brush, but it should be pushed back further, before the cleaning is completed.

DO CLEAN TEETH NEVER DECAY?

By DR. D. W. BARKER, Brooklyn, N. Y.

In the communication below Dr. Barker takes vigorous exception, as others have done, to the bald statement that clean teeth do not decay. Perhaps the whole question hinges on the shade of meaning attached to the word "clean." A surgically clean tooth will not decay, that much is certain. But Dr. Barker contends that we cannot have a surgically clean tooth in the mouth. Then the question arises, Can surgical cleanliness be nearly enough obtained to prevent caries, or, can surgical cleanliness be obtained often enough so that caries will not have time for its inception in the interim between cleansings?

For some time I have been itching to take a whack at the would be epigrammatist who seems to have achieved more or less fame by saying or writing, "A clean tooth does not decay." How does he know it does not? He never saw one; neither has any one else. There is no such thing. A clean tooth is one from which a bacterial culture cannot be obtained. Can he produce such a condition in the human mouth? Never. Suppose by application of the dam and scrubbing a tooth with disinfectants he attains a condition approximating cleanliness, how long would it remain so after the removal of the dam?

While one could count three? Doubtful. Since there are about twenty-three or four different kinds of bacteria in every healthy mouth, cleanliness is a relative term.

I know a young lady who at fifteen years of age has lost all her molars and bicuspid, and has extensive decay in both upper and lower incisors. The molars and bicuspid have not been lost by extraction; they have simply decayed away. And yet her teeth are clean, as the term is usually used. If the hygienic epigrammatist was asked to clean them he would find nothing to do. If clean teeth do not decay, why have these teeth decayed?

If clean teeth do not decay then it must also be true that filthy teeth do decay. We have all seen teeth whose owners never clean them, teeth inexpressibly filthy, which do not decay. Now, if clean teeth do not decay, and these teeth do not decay, then these teeth must be clean. Q. E. D.

Now, I am not preaching against oral cleanliness or anything of the sort, but I am opposed to false and misleading teaching, and it seems to be easier to make epigrams that are untrue in order to ride on the top wave of a popular fad than to tell the truth.

The idea that clean teeth do not decay is based on a false theory; a theory that, briefly stated, is that tooth decay depends entirely on forces external to the tooth itself, *i. e.*, its environment, whereas the truth is that environment is but one of the factors, the other two being internal and therefore beyond the control of the dentist or

any one else, namely, the quality of the tooth structure, and the vitality of the individual. It has been said that a half truth is the worst kind of a lie, but that epigram is only one-third of the truth.

At the present time I am extracting all the teeth of a young man, a German, aged 19. Not counting the third molars, which are just appearing, of all the other twenty-eight teeth there are only three with any crowns above the gums, a lower incisor, an upper molar and an upper bicuspid. All the rest are nothing but roots. Another case; a boy, Irish, aged 14. Examination showed the following: Teeth with crowns gone, nothing but roots left, 14; teeth having exposed pulps, 5; cavities in remaining teeth, 10; sound teeth, 1. Can the epigrammatist account for such wholesale destruction at such an early age, as these cases present on any theory of lack of cleanness?

BUSINESS TALKS OR COMMON SENSE

ASCERTAINING COSTS.

Before going any further with the business campaign, it might be best to outline to the profession the plan of ascertaining costs. This, to the writer's knowledge, has never been done to any extent. One thing certain, it has never been worked out and presented to the profession in a systematic manner.

The one thing that has been most neglected in the estimating of costs is the time consumed for the different standard operations. This item will form the body of this paper. There are lots of dentists who can tell you to a cent what their expenses and receipts are, and more and more of them are falling into line every day, since this

business propaganda has been started, but the one main thing that has hardly been touched upon, and one you never see printed in the journals, is the average time for different standard operations. What time they take and what time they ought to take.

Right here I hear a storm of protest, saying "it can't be done," "There are too many different factors to consider," etc., etc., "Why, you can't even think of it," and so on. Let us pause a moment. We all of us admit that it is a very big obstacle and that a whole lot of results hinge upon the outcome. That is why we are working it out. Just because our forebears did not approach the problem, are we to say nay, also?

Surely you will admit on the face of it that the very fact of its being a big problem should all the more determine us to conquer it. Many a light will be shed on business "leaks." Many eyes will be opened, many remarks made, such as, "Well, who would ever have thought it would take so much time!" "Here I have been doing this work and not earning as much per hour as at the trade I quit." "How misguided I have been all these years," etc. It will be a rude awakening, but all the more thorough for that. And who is going to do this for you?

The answer is, you are going to do it for yourselves. You are the main factors in this campaign, and when you do all this yourselves the les-

son will be more thorough. You know that seeing a man put in a gold filling and then taking the instruments in your own hands and doing the filling yourself put an entirely different aspect on the operation, and you appreciate the difficulty of it more, don't you? And the lesson has more weight.

We are going to get at this thing in a systematic manner, as far as possible, and have a chart made with all the main standard operations and the different steps marked out in such a manner that they can be filled in and the aggregate time taken. This chart is now being made and will be ready in the near future for delivery, and we ask you earnestly *not to destroy it*. We are going to send it to the 40,000 dentists of the United States and ask them to tack it on the wall in some convenient place, so that the chair time and the laboratory time can be filled in, the aggregate taken and prices judged accordingly.

Every month we will give you the average time of several steps, so at the end of a few months you can have all the places filled and see how it compares with your own time. By that means you can tell how you compare with other dentists, because everything in this world is ruled by comparison.

Also, each and every month there will be articles concerning the comparative prices of different work, analyzing the same for the edification of

our readers, and when you yourselves have taken the different times, you can read the criticism with a broader gasp, *but do not attempt to criticize unless you have timed yourself on the operation. And also if you criticize adversely you must send in your remedy.* This thing of sitting back and scoffing at theories and systems will not do and to make your point good you must go one better and provide a remedy.

Now, a few comments on this timing method are not out of place. Let us take a few instances.

You must admit that any manufacturer who makes anything from pins to automobiles must know what time it takes to make his article. In going through one of our big dental manufacturing plants I came across a new style laboratory vulcanizer they were making. It was not complete, but I asked "About how much will you charge for it when you put in on the market?" The answer was characteristic of the business man. He said, "We do not know yet. We have to know the time it takes to make it." Now, this man knew the percentage of factory costs, insurance, upkeep, advertising, etc., and the price of material in the vulcanizer, but so far he had not averaged the cost on the machine work, and until he had he could not tell what price it would be.

It made a profound impression on me. I thought if it could be applied there, why

not in the profession. I asked him, "How do you average, how do you allow for the 'human factor,' every mechanic is not alike?" He answered, "That is true. Sometimes a union demands that certain mechanics on certain things must all be paid alike, say \$3.50 per day. If there are a dozen men working on the same article, some, of course, must be better or worse than others. Some cannot run their machines as fast and turn out as good work as others. Of course, even the worst has to turn out enough to justify his wage; but the only thing we can do is to lump it and take off what we call the percentage of human failures, which is inevitable in every business."

I asked, "Kindly explain more explicitly the 'human factor'." "Well," he said, "it's this way. When you went to school, if you got a general average of 90 per cent you thought you were some student, didn't you?" I nodded. He went on, "Of course, you would make 95 per cent in this study, 82 per cent in that, and so on, but altogether you would average 90 per cent, which entitled you to the honor class. Well," he continued, "you are a dentist. Then the same thing holds good. It holds good in any business. If you make 90 plates good out of a hundred, you are still a good plate maker. If you have 90 gold fillings stay in out of a hundred, you are good on gold fillings, and even if you

do break 10 out of a hundred teeth in extracting you are still a good extractor. Therefore, in estimating costs, we always put on not less than 10 per cent and sometimes as high as 20 per cent extra in certain particular branches of the making, and," he added, "that's what you dentists ought to do." I smiled.

He went on. "Now, how many plates have you had when you have done your work at the chair, impression, bite, adjusting, selecting, everything, in fact, correct at your end of it, only to have it go wrong back in the laboratory, something not your fault, but you have to stand the loss of time. It all devolves on you; a loss which comes out of your pockets. Isn't it heartbreaking? It might be a defect in rubber or plaster, although you have bought the best, and there is no redress. You have to grin and bear it; go ahead and make it over.

"For instance," he said, "see that man over there?" pointing to a mechanic at a machine, the end one of a row of eight. "A little while ago, just before you came in, a part of his machine broke, some defect in the tool, which he personally was not responsible for. That mechanic is one of the best in the shop, he finishes a certain piece of work on his complicated machine, which has already gone through seven different machines before his. Well, he broke it in this instance, he could not help it. There was

no negligence on his part, but the part worked on was not only no good, and had to be thrown in the scrap, but the time of seven other mechanics before his was wasted, but had to be paid for by the firm. Now that was something no one could avoid, we could not dismiss anyone for neglect or bad work. It just happens, and no matter how well regulated or perfected your system, a certain percentage of these things will happen and have to be estimated in the costs, when we decide the price of any article and, of course, makes that article cost more.

"Always remember, as the wholesale liquor dealers say, that champagne is not itself expensive, but the enormous expense of breakage due to its high fermentative qualities is what the final cost helps to pay for.

"That's what I mean, you ought to provide for it, too, as we do. You dentists pay for all this percentage of failures, up to a certain point, on all our articles you buy. Of course, beyond a certain point of 'human factors' we stand the loss ourselves," and as we were parting he said: "If for 100 plates at \$20 each you get \$2,000, you have to charge \$2,200 gross, or \$22 each, to break even. Catch my point?" I smiled and nodded, and as I walked out I thought what infants we were when we came to estimate costs. The man had certainly given me food for thought.

So much for the "human factor" which is in every business. We might adopt the plan blindly, and all rate ourselves 90 per cent men and charge 10 per cent extra for the "human factor," but do you think that any dentist has ever bothered his head about it? A call goes up from the high brows saying: "No, no one has ever thought of anything so sordid as that. If any dentist has any time to spare he has directed his energies to research for the alleviation of pain and new medicines," etc., etc. Granting the argument, but why not carry the point further and say, if the average dentist could get better prices and not have to work, *evenings, holidays* and *Sundays* to provide a decent living for himself and family, he would have both more time and money to expend in experimenting.

Don't you suppose there are lots of dentists back in the tall timbers who have genius, who never had an opportunity to develop their best inventive powers, who are living a "root hog or die" sort of existence, and their inventive brains everlastingly lost to their profession? Of course, there are, lots of them, and you can't deny their existence. Another thing, some of you have experimented and know that it is an expensive pastime, and maybe the only reason you worked was because you could have no rest till you got the scheme out of your system, not for the monetary end of it, and often-

times you have wished you had more time and money so you could perfect your ideas.

Some dentists may think it is impossible to time operations on the human body. Why should it be? Even a barber can average his hair cuts, his shaves and shampoos. Ask any of them how long it will take and the barber will give you by far a better average time for his tasks than the dentist can. Take the other extreme. A surgeon who has, say, a hundred operations for appendicitis in a year, which some, you well know, have. They can tell by looking on their charts what the "average" time is, because their way is modern and up to date. The modern hospital chart is ingenious in its conception. Temperature, appetite, food, pulse, everything is recorded to a shade, including time of anaesthetic and time of operation, and that is and has been one of the factors (compiling these tables of hundreds of cases) that has been responsible for the advance of surgery today.

That was repeated and dwelt upon in one of our leading medical journals just the other day, and special stress was laid on the recording of hundreds of cases. That is where the medical profession is ahead of ours. They don't think it "red tape," and let any nurse think it too much bother or get too lazy to do it and see what she gets. Let us take the lesson to ourselves. It will well reward

anyone to record the times of different operations in the mouth. Do not think you are doing anyone else a favor but yourself, because if it is the means of raising your income \$1,000 a year you will be benefited first and foremost. It is not right that we should allow any other profession to "put it over" on us in these "finer" points, and when we see them getting results and have had the lesson before us for such a long time, the least we can do is to fall in line and determine to be first next time.

If you extract 100 teeth, or make a hundred plates, or 100 inlays, or 100 examinations, or 100 gold fillings, or 100 repairs, or treat 100 abscesses, or clean 100 sets of teeth, there must be a time average. There is no argument to the contrary. If this were done there would be an absolutely new scale of prices. It would make the dentist think as he never thought before and he would not need the fellow up the street, who had found it out, to tell him. You must not think because it has never been done that it is impossible to do it. If every one thought that there would be no progress. There have been more difficult things than that done in this world.

The manufacturing shops are full of "time" cards, and especially supported cost departments are continually working along new lines and finding different data and trying to find out leaks. Just to give an interesting item:

A well known carriage firm made a machine that saved one cent in turning out wagon and carriage tongues. That looks small on the face of it and hardly worth while, but when you consider that during the year they make 350,000 different tongues to go to all parts of the world, the saving (\$3,500), is quite an item and would be quite a nice salary for some one. So you see, if a well regulated manufacturing concern could stoop, as it were, to look for such small savings, we dentists should not consider it beneath us. Probably it is on such accounts that we have stayed poor so long. Perhaps it is because the profession is so young and that we have tried to ape our mother profession, medicine, but our profession stands in a class by itself and we have to work out problems characteristic of it, *for our own salvation.*

It has only been in the last ten years that the modern manufacturers have gone to the extent along cost accounting that they have, but now Americans are recognized as the last word along that line in the world and it is certainly time that the dentists fall in line, and do something on their own account, because unless something is done we cannot expect to get the best brains of the people into the profession. All we want when all is said and done is a fair price in comparison with other things that are sold to the public at large.

There are certain things

that a cost system should show up for the dentist:

First, the exact time of each small operation in each line in dentistry.

Second, the amount of time put in in productive and non-productive labor. How divided, and whether the dentist or hired help does it.

Third, the overhead expense of all kinds and bring to a focus as much as possible, the final analysis, pointing out whether you are doing dental services at a profit or loss.

One last word in closing to emphasize the importance of knowing the times of each operation. We must always remember that seventy-five per cent of the dentists are catering to the masses of the people. The other twenty-five per cent have the classes for a clientele.

Now the masses of the people, before buying anything, want to know what they are going to pay and the seller must know what to charge, basing it upon his knowledge of costs. The man who works for a living must know at what rate he is spending his money and he is perfectly right. If we have to make contracts for the working class, we have to have a correct basis to work upon, so that we can make the contracts intelligently. No wage earner, for instance, could do business with a piano salesman, if that salesman would say, "Well, I'll make you up a piano and I'll see what time it takes and charge you accordingly." The salesman

must know all that has to be done for the buyer before he comes into the store.

The same has to be done for the buyer if he is buying hats or automobiles. All the costs have to be figured out and are figured out for him by the manufacturer before the goods are put on the market. The same should be done in dentistry.

We dentists *make* plates, *make* bridgework, *make* this, that and the other and, while we are talking commercial sense, we are manufacturers for the time being. Call it any name you please, "professional services" or what not, the fact remains the same and cannot be gotten away from. We make things and the time can be gotten at just like any other manufacturer gets at it.

These papers are to help the mass of dentists and as we from time to time grow older and gradually emerge into the twenty-five per cent class of dentists, who cater to the classes, then we can handle a class of people who will let us charge for time, which is the ideal way and the way in which the best dentistry can be done, but so long as the masses must know where their money is going, they naturally want to know, "How much does it cost." Then we must know from a careful compiling of figures, percentages, overhead expenses, etc., what is the right figure to charge and know what we are talking about. As it is, prices are chaos. Dentists are losing money in whole lots of

operations and don't know it and never will know it, until they study their business as business men have studied theirs, to know and at last have the courage of their convictions and charge accordingly.

INTERESTING FIGURES

Dr. F. W. Traylor, Boonville, Ind., sends us the following figures compiled after an examination of the school children:

Grade.	Number. Examined.	Tooth Brush.	No Tooth Brush.	Family Tooth Brush.	Number Cavities.	Perfect Mouths.	Abscesses.	Had work done.	No work done.
1	78	21	51	9	345	14	1	6	72
2	76	14	62	3	152	4	0	4	32
3	38	13	25	2	149	5	1	4	34
4	104	51	53	0	338	17	3	20	84
5	38	22	16	2	88	8	0	6	32
6	32	22	10	0	68	9	1	11	21
7-8	38	31	7	0	81	9	0	14	24

Total number examined, 404, of which number 43% *said* they had a tooth brush; 14% needed no attention, rather a remarkable showing.

MEDICAL SUPERVISION ON THE WAY

A bulletin recently issued by the New York Bureau of Municipal Research has for its subject "The Improving Reputation of School Reports." After contrasting the meagre reports of ten years ago with those of today, and calling attention to the tendency toward uniformity in the form of reports, due to the efforts of a committee of the National Educational Association, the bulletin discusses various phases of the reports received from seventy-three cities. In regard to medical examination it says:

Physicians, nurses, adenoids and eye troubles, sanitary fountains and oiled floors, fresh air and follow-up work are mentioned so frequently that it is hard to realize their newness in school reports. If your community needs to be convinced, try circulating facts and arguments from reports of other cities for

1910. Because these advance steps all require dollars to make them effective, superintendents are giving dollar reasons:

"It is cheaper to correct defective vision, remove adenoids, to correct defective teeth and resulting mal-nutrition, than to pay the cost of taking pupils twice over the same ground because of backwardness traceable to physical causes. . . . It is absurd to spend thousands of dollars on schooling and to ignore the measures necessary to enable children to profit by such provisions."

But assertion of monetary value must be followed by proof. This means comparative records particularly of those children whose retardation seems clearly due to physical defects. In one city teachers were urged to note the change after defects were remedied and reported the number of warning cards sent out, the number of warnings heeded and not heeded and the number of improvements in school work.

One form of proof is the enthusiasm of parents or interest of parents' associations mentioned in several reports:

"Suggestions formerly regarded as 'interference' are now looked upon as a valuable help. . . . Medical examination is now accepted by the parents as wise and judicial oversight of the welfare of their children. . . .

"One good result of this work is the better knowledge the teacher has of her pupils."

Gaps are inevitable between plans for medical examination and work done. Everywhere it is the same story. After (1) a large number of examinations, comes (2) a more or less vague belief that examinations should be continued, and then an increasing realization (3) that examination without correction may not be worth while, and (4) that correction cannot be proved without re-examination. Hence (5) the school nurse and (6) follow-up work to enable parents "to understand the serious nature of troubles brought to their attention" or to correct "sanitary conditions in the homes to which the children return." Hence, too, (7) more efficient supervision and finally, (8) repeated demands by the school superintendent *either for more facilities outside of school for treating children or for facilities under the school roof for testing eyes, cleaning and repairing teeth, etc.*

Physicians and dentists have been co-operating more generally than was prophesied when physical examinations were first proposed. In many cities the first tests are made without charge by physicians and dentists who have often given services over a whole school year or longer. Several cities give comparative tables showing facts for each defect by schools and by grades; number children examined, number of each defect found, number treated successfully, etc. Such figures always prove the need for re-examination.

Among special features noted are:

Tardy transition from inspection for contagious diseases only to examination for all physical defects including signs of con-

tagious diseases; segregation of trachoma cases; reducing "the pest of pediculosis one-third by insisting on cleanliness in crowded cloak rooms;" regulation of re-admission of secluded children; cost of putting examination system on a comprehensive basis; class instruction in use of tooth brush; establishment of dental clinics at school; public health lectures; modified courses in hygiene to include instruction in the care of skin, teeth, eyes, ears, nose, etc.; emphasizing civic health habits; fighting the white plague by printing instructions in all school books; waging personal hygiene campaigns during the summer; portable exhibits; establishing mothers' schools; installing sanitary closets; fumigating textbooks; oiling floors; abolishing the feather duster and dry sweeping; paper towels; individual pencils; showing relation of window space to defective eyes; adjustable seats; vacuum cleaning; special courses for janitors; monthly fumigation of buildings to increase attendance; flushing the rooms with fresh air after every session; prescribing regulations for opening windows; registering the temperature during sessions; humidifying the air; substituting sanitary fountain for common drinking cup; "Health days" held by the state secretary of health.

"Health," says Superintendent Brooks of Boston, "is more important than education. The school must avoid doing anything harmful to the health of its pupils, must remedy all conditions detrimental to their physical condition and must instruct all pupils in regard to the importance of physical vigor and the means by which disease may be prevented."

Medical examination will inevitably grow into medical supervision as suggested by Grand Rapids which wants another word than "medical examination."

"Doctors should more than look at children. They should devise means by which children may be

(Continued on page 198.)

EDITORIAL



GEORGE EDWIN HUNT M.D., D.D.S. EDITOR
131 EAST OHIO STREET, INDIANAPOLIS, IND., U.S.A.

THE NATIONAL LEAGUE FOR MEDICAL FREEDOM

An organization with the above title issues a pamphlet every once in a while which is called *Medical Freedom*. The editor of ORAL HYGIENE has received a free, gratis, for nothing copy of number four, volume one, of the pamphlet.

It would seem, from the account therein, that the league with the sonorous name recently held a national convention in Chicago and had sixty delegates present—sixty, count 'em! These sixty would-be arbiters of medical freedom for the United States resolved bravely and copiously for a day or so and adjourned with mutual felicitations regarding the progress they are making and the impression they are creating. In London, there were once three tailors of Tooley street, who held a convention, consisting of themselves, and drew up a memorial to the King of England, which document began, "We, the people of England!"

The National League for Medical Freedom, judged by its literature, is a destructive organization, not a constructive one. It is typified by the Irishman who was shipwrecked and cast upon the shore more dead than alive and whose first question to his rescuers was, in a faint whisper, "Phwat koind av a goover'ment have yez?" The reply did not reach his dimmed intelligence, but just as he again lost consciousness he feebly murmured, "Oi'm agin it!"

The National League for Medical Freedom is "agin" vaccination, serum-therapy, medical and surgical experiments on animals, medical inspection of school children—and, of course, dental inspection of school children, wherever it rears its hateful head, the teaching of sex hygiene, medical inspection of immigrants, a national board of health, state and local boards of health, Dr. Harvey Wiley, and last, but by no means least, the PURE FOOD AND DRUG LAW. The above ought to be enough to condemn it in the minds of strictly sane people, but a lot of us are not sane. Dave Gibson, who is for all of the above things and a whole lot more along the same line, claims he is "violently insane," and I guess I must be also.

So for those who are not so violently insane as are Dave Gibson and myself I will elucidate this matter a little further.

Certain individuals and corporations in this country are primarily, secondarily, lastly, always and forevermore, world without end, opposed to the pure food and drug law. Their negative chemotactic sensibility to the pure food and drug law has long since reached the nth degree. The reason for this is evident. Even he who goes by in an automobile can discern the whyfore and he who runs can read it without a reading glass. The pure food and drug law deliberately, expeditiously and effectively put a crimp in their business. It tied a knot in their tails and they hollered long and loud. It interfered with their "personal liberty" to such an extent that they gnashed their teeth and raised their voices in loud lament. They had been selling thirty-eight per cent of rotten dollar and a half a gallon whisky, the other sixty-two per cent being water flavored with cardamon and other cheap flavors, for a cure-all at a dollar a bottle, eight to the gallon. They had been selling soothing syrups for sick babies, each dose of which contained enough opium to put the poor, defenseless little one to sleep. They had been selling consumption cures which did not cure the consump and kidney cures which could not cure the kid, and cancer cures which were unable to cure the can, sir. And they had been selling canned and bottled and boxed and loose food which had been preserved with benzoate of soda, and formalin, and salicylic acid, and formic acid, and other dangerous drugs, and they had been selling the children candies colored with analine dyes, and they had been selling canned tomatoes dyed red, and sausage with bread in it, and committing a hundred other atrocities which neither my time nor my memory will permit me to set down here.

The pure food and drug law passed their way and smote them hip and thigh. It compelled them to tell the truth plainly about their goods so that the people might know what they were buying. If their soothing syrup, for which "babies cry," contained opium, the label had to say so. If their "Rupena" contained one-third whisky and the remainder practically all water, they had to say so. And along about that time came *Collier's Weekly*, other "muck raking" magazines, and many boards of health and told the people many instructive facts and presented to them many interesting figures concerning adulteration of foods and drugs. Naturally, the desire for pure food and pure drugs spread enormously among the public. The people, just the common, ordinary plain or garden variety of people, like you and I, arose in their wrath and demanded as their right, pure food and pure drugs. How inconsiderate of them! All this agitation was bad for the business of certain men who desired to make large sums of what George Ade and Robert Browning have termed "mazuma,"

by selling the innocent consumer rotten food preserved by antiseptics and germicides, just as cadavers are preserved in the dissecting room, or unloading on them, at a strictly fancy price, "cures" for various diseases, which "cures" contained nothing of value to a sick person or of interest to a well one with gumption enough not to desire cheap whisky sloshing around on his insides, doing a finish fight with his intestines and other eliminating organs. And all this agitation made business bad for these gentlemen, consequently they were "agin the goover'ment."

Being smart men, they realized they would receive scant consideration from the general public if they alone tried to discredit the law and secure its repeal or modification, although they were not smart enough to realize this until they had made the attempt and failed. So they cast about for backing. It was an organization with numbers they wanted—one about which they could boast in thousands. Think it over. What would you do if you had been making a deadly soothing syrup for children, had been getting richer and richer from its sale, and the pure food and drug law had put you out of business, and you were unscrupulous, and money was more to you than some other person's baby, and you were looking over the world for backing in a movement to get your "personal liberty" to poison humanity back? Not backing in money, especially, but in numbers, so you could go to legislatures and to congress and show that so many thousands of the people, the consumers, wanted that law repealed or modified. I will tell you what you would do. In looking about you would find a certain contingent of men and women who are opposed to vaccination, compulsory or otherwise. They would join an organization which had as one of its tenets opposition to compulsory vaccination, in a minute! Then here is another body of men and women who believe osteopathy is the sole and only avenue to health for all diseased individuals. They are not interested in anti-vaccination but they will join an organization for "medical freedom" just as quickly, and from the same motives, as the anti-vaccinationist, who is not especially interested in osteopathy. And so you would winnow society, and by having a number of articles in your creed, you would "catch 'em coming and going" and appeal to the anti-vaccinationists, the anti-vivisectionists, the anti-serum therapists, the osteopaths, and homeopaths, the physiomedics, the Christian Scientists, and all the paths and ists and individuals who have a grouch against what they term "regular" practitioners of medicine. You would expect the man who opposed health boards because they would not let him throw his bedroom and kitchen slops in the gutter, and the taxpayer who objected to the building of a sadly needed new school house, and the man who didn't believe in germs, and the man who did

not want his child to go to school but did want her to work in the factory, and a host of others to cordially embrace this opportunity to join an organization with many activities bunched under the attractive but slightly indefinite term "medical freedom." All would be fish—of the family *Catostomidae*, which same is high brow for "sucker"—which came to your net.

Many, if not most of these allies would be acting in perfect good faith. There are numerous people in the world who do not believe as I do and as I hope you do about many of the matters I have touched upon, and they are honest and sincere in their beliefs. As a rule, I think this belief is based on incomplete knowledge but it is their belief just the same. While I have no excuses to offer for and no sympathy with or tolerance for any person who opposes vaccination, serum therapy, or *bona fide* therapeutic or surgical experiments on animals, all of which I thoroughly believe to be for the good of the human race, I freely acknowledge the benefit that has come to some people afflicted with certain diseases, when treated according to some of the pathies and isms whose practitioners desire to be distinguished from those known as "regulars." These practitioners should be, and will be some day, specialists in medicine and will confine their activities to those conditions where their greater skill, due to concentration in that phase of healing, will result in great good and no harm to suffering humanity. The point I desire to make is that in furthering the work of the National League for Medical Freedom, these misguided persons are, in all probability, assisting unconsciously but effectively in a campaign against the pure food and drug law, a law which, I doubt not, they would fight to maintain, if the issue were made clear to them. The reason I believe this is because many of those now and formerly active in the councils of the National League for Medical Freedom have been identified in the public press as men hard hit by the pure food and drug law and who have opposed its passage and enforcement at every step. Their zeal for medical freedom was never discovered until the pure food and drug law washed the insecure foundations from under their business and brought it toppling about their ears. Then their demand for freedom and their effort to associate themselves with all who could assist them in regaining the kind of freedom they desired, became acute.

No honest man, no man with a spark of altruism in his soul, can wish for worldly prosperity through clandestinely drugging the people, or cheating them by misrepresenting the quality or ingredients of the article sold. The pure food and drug law was passed to control those whose lack of honesty and altruism permitted them to perform these dishonest acts. Opposition to it is futile. It is a good law; the people gen-

erally believe in it; it will grow stronger, rather than weaker; and Wiley, its apostle, shall continue.

And that reminds me that scarcely a week has passed in the past two months that literature has not reached me through the mail, attacking Dr. Wiley from every conceivable standpoint. It is costing a large sum of money to put this literature on the desk of thousands of editors in the United States. I wonder who is paying the bill!

Contrast all of above, with its spirit of defiance, of negation, of opposition to the welfare of the people as displayed by the literature issued by the League for Medical Freedom with the following: *The Survey*, whose sub-head reads, *A Journal of Constructive Philanthropy*, is published weekly by the Charity Organization of the City of New York. Two years ago the editor formulated a platform stating what he expected to work for in national and other legislation. Many of the planks in that platform have since been built up into our laws but the two paragraphs quoted relate to matters not yet achieved. It will pay you to read and ponder over them:

First of all, let us secure the establishment of a children's bureau to study the causes and remedies of race suicide, infant mortality, orphanage, illegitimacy, child dependence, juvenile delinquency, illiteracy, and all the other forces that work for racial degeneration; to discover and promote the influences that make for the improvement of the stock, for the strengthening of character, for the preservation of the body from disease and deterioration and of the soul from destruction. Of course the national government should not invade the province of the state governments or the home or the church or the school. But the nation can provide for investigation and publicity. The nation, which is more than any group of us and which is identified with the highest interests of all of us, has no temptation to proselyte and is free from the need of offering cowardly apology for the wicked foolishness of any sect, section, party, class, or generation. Only the nation can adequately study the vital problems of birth, nurture, degeneracy, and racial progress. We shall not get far with the solution of such problems this year, but we can create a bureau to work at them as we work through similar bureaus at crops, fisheries, forests, minerals, lands, commerce, and Indians.

Secondly, we can secure more complete recognition of the importance of national health by a reorganization of the public health service and a redistribution of the various national bureaus which have to do with the public health, bringing them into a single department, preferably the department which has to do also with the interests of labor and in which the children's bureau is created. The medical profession, through its official organs, has long advocated increasing the resources and perfecting the organization of the public health service, and even creating a national health department with its head in the cabinet. The time is ripe for pushing these demands to some consummation. Probably we shall not get a health secretary, and a labor secretary, and a children's secretary or a secretary of education, although we hold these interests to be more fundamental, and even better entitled to representation in the councils of the chief executive than commerce, or the post office, or the navy. No one will deny that the post offices, for example, should have at their head a very capable

administrator, but why this administrator should be deemed to be *ex officio* an exceptionally valuable adviser to the president on questions of national policy will surely be a puzzle to future historians, especially if by any good fortune the records of the era of our spoils system should happen to be destroyed. On the other hand, in these days of public concern for the social welfare, it requires very little constructive imagination to discover wherein the services of cabinet members familiar with sanitary, industrial, and social problems would be of value. Dismissing as utopian the prospect of three or four new secretaries who owe their seats in the cabinet to such qualifications, it is quite within the bounds of reason to insist that one among them should represent these collective interests, and that an end should be made of the anomalous situation in which the president looks to his secretary of the treasury to administer the public health service, to his secretary of agriculture to safeguard the purity of foods and drugs, and to his secretary of commerce and labor to collect his vital statistics.

What a difference manifested here from the tearing down activities of the medical freedom league!

And by the way, the ideas embodied in the quotation above have been put in the shape of bills. Keep in touch with them that you may urge their passage on your congressman and senator.

THREE YEARS AT COLLEGE

By JOHN CRIMEN ZEIDLER, D. D. S., New Orleans, La.

SENIOR YEAR.

Ye mighty, mighty senior!

The words in the popular melody, "Gee, but it's great to meet a friend from your home town," might well be changed to "Gee, but it's great to be a senior in your college town."

There's nothing else to it—being a senior is some "scrumptious."

Alas! now that you had become the muchly coveted senior you hardly realized the vast amount of importance (?) attached to your highly exalted position. When you were a freshman and a junior, the mighty senior appealed to us as something sorter-er—well, kinder big, vast and impenetrable, but

now that you experienced that happy throb within you, you realized that they were after all equally as human as you were and had been.

You looked upon the meek crowd of newcomers with a half pitiful, half contemptuous eye, and gloried in your own "bigness." That so-called bigness was more fully realized when you got to chatting with a newcomer on the corner, and after conversing for awhile he asked whether or not you were a freshman. Great jumping Jupiters, but here was where you throw the full array of broadsides into him, when you calmly and nonchalantly stated: "Me—why no—er—ye see, I'm a



M.J. Bouthillier.

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If your dealer will not furnish them as you desire—and promptly—write us about it. Maybe we can arrange for you to receive them.

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senior." But the "little ole" freshman took it all as a matter of fact and strolled on with the feeling surging within him that he too would make that very same declaration some day.

Strange but true a fellow always got extravagant in his last year. Some splurged more than others, and there were some who had hardly spent any money the previous year who were spending it "nicely" during his last year. That kind however consisted of the sort that had practiced liberally in the art of dentistry during their summer vacation.

There was quite a great deal of studying during the senior year, but a greater part of the time was spent in talking of what was to come. You undoubtedly remember the fellow who in his own common vernacular was going to get "pifflicated" upon the event of his graduation. Now this same sort of a fellow as well as I can remember was the sort that failed to connect with a diploma, and his cause for getting—I blush to say it—"pifflicated," was a far different one. The right sort celebrated the occasion more befittingly.

Towards the end of the term conversations were becoming more heated, and the question of who was to be WHO puzzled many. In crowds of four and five you pondered over the question until at the end you realized that the final day only would decide the queries satisfactorily. You possibly might have

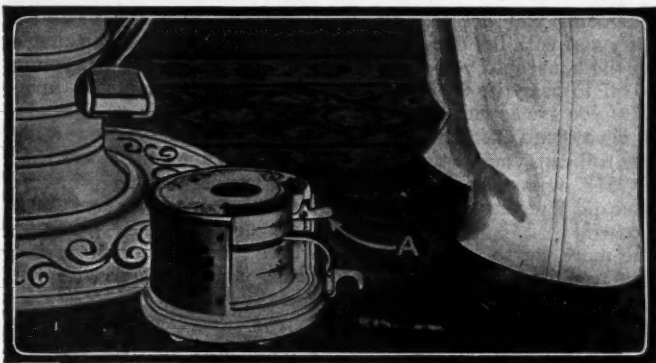
been one of the best qualified men in the class, yet this feeling of uneasiness at times got the best of you. If you were the party who had been negligent with your studies, now was the time that you begun to regret not having taken the proper advantages of the opportunities afforded you. How some fellows did wish that they hadn't skipped so many of their lectures. But it was all too late now, and for those who had been negligent it was "mid-night oils and stay at homes."

I smile, one of those creeping, growing smiles, that almost slips into a suppressed laugh, as I recall how we fellows did dig and hunt around for questions asked by the different state boards. We used every possible ways and means to secure all that was available of these questions, and I also recollect the clubs we formed wherein each man quizzed the crowd on a different subject. I laugh aloud, when I recall the fellow who stated that not a darned question that he had looked up was asked him.

One day a notice appeared on the bulletin board that on Wednesday, May 16, at 9 o'clock a. m., the senior class, would assemble in the main lecture hall to receive the results of their examinations. Signed, Dr. Blank, Dean.

Did you sleep that night? Well I guess you did—NOT. You like many others, tossed and rolled the entire night.

You awoke the next morning, fairly trembling with ex-



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Name _____ Street _____ City _____

citement, you dressed in a jiffy and with the good wishes of the household you were off—off to hear the decree.

If you are as unfortunate as I always am, the last one on the roll call, you went through SOME agony. But say, when you did find out that you had passed, you appreciated it all the more for the trying situation you had been placed under. Oh! say fellows, wasn't you the grandest feeling man in the world—you felt—now what's the use of me trying to tell you how you felt—tell you what you do, just close your eyes, lay back in your chair, and give the little artists within you time to paint a most vivid picture of how you felt and acted. And after you have done that just imagine that I wrote it all out for you. Get me?

Couldn't get the glad tidings home to the folks fast enough, could you? Everybody connected with you in the town was glad for you too, weren't they? But with all your happiness there were heart aches, for you felt most sympathetically for the unfortunate fellows who had failed. To this I attribute the only disagreeable feature about graduating. The fellow may have been one who was disliked, but regardless of that you felt sorry for him, and sorrier still when you imagined yourself in his state.

Then the realization of all your glory, when you were seated upon the stage and the dean in ardent and flowing words commented upon what

a brilliant year the past one had been and what a capable and creditable set of young men his institution was turning out.

Some of the fellows had their eyes upon their best girl, who was somewhere in the audience, while others kept glancing in the direction where their mother sat—proud and satisfied with her own big boy.

And then—why then fellows it was all over but the shouting. Your next step was to throw aside all frivolities and at once set yourself to the task that lay before you. It was now up to you to either make good or get down and out of it all entirely.

Some fellows had a hard route before them; they were to experience many hard knocks and disappointments, but if the right stuff was in them they were up and ready at the clang of the gong, ready to try harder than ever.

To you, old pal, who has been through these three stages of college life I hope that I have been the cause of recalling the many smaller incidents that made your life bearable, and I sincerely trust that some day we will all meet and talk it over.

Here's hoping that you were one of the successful ones.

MEDICAL SUPERVISION ON THE WAY

(Continued from page 188.)

trained in right habits of living. The medical inspector should have direct supervision of the

BEWARE

Dentists complain to us that they do not receive DAVIS Crowns when they order them.

The Cause and the Remedy

When "DAVIS" Crowns are ordered, many dentists receive the "DAVIS" Pin with some substitute porcelain. This substitution is made for reasons in which financial conditions and profit predominate.

It is, therefore, common practice to send you some other crown with a "DAVIS" Pin, when you ask for a "DAVIS."

When personal financial reasons, instead of customers' accommodation, dictate a business policy, it is time for the customer to look out for himself.

How to recognize the "DAVIS" Crown at a glance and thus disarm the substitutors

If you can read the number with the biting edge up—like this



You have a
"DAVIS"

If you read the number with the biting edge down—like this



You have an imitation
or a substitute

Consolidated  Dental Mfg. Co.

teaching of physiology and hygiene."

Thus, from volunteer medical help to paid medical help and from part time service to full time service, with corresponding salary and corresponding benefits.

There is much food for thought in the above. "Health," says Superintendent Brooks, of Boston, "is more important than education."

That is true, for a healthy boy or girl may become self-educated. Ill health means an ill education and lack of efficiency generally.

I know a philosopher who says a dyspeptic is a greater detriment in a community than the occasional drunkard, because the latter is efficient a part of the time and the former is always inefficient

PHYSICIANS AND THE LEGISLATURE

THE SAFETY OF THE PEOPLE IS THE HIGHEST LAW

By HON. R. P. BUSH, M.D.

"Salus populi suprema est lex," is a maxim expressed by Roman lawmakers and adopted by the judges of that once world-wide empire. It is generally accepted by the governments of all civilized countries. In our state the government maintains a Department of Health, at considerable expense, employing experts in the several departments of practice: inspectors, chemists, bacteriologists, sanitary engineers and lawyers. It also provides for health officers and boards of health in every town, village and city in the state. It furnishes antitoxins for diphtheria and tetanus free to those who need but are too poor to purchase it. Indeed, the Department of Health is of the utmost importance to the people of the state. The legislature is not

niggardly when convinced that any outlay in this direction is necessary.

The state, also by law, prescribes the qualifications of physicians, as to moral character and education, and these restrictions have been imposed at the request of members of our profession, not so much to make a union of practicing physicians and protect the honest scientific practitioner as to protect the public from charlatans, pretenders and swindlers, who, working on the fears of the sick and the weak, would separate them from their money to their own emolument. In fact, the state attempts to provide by examinations that all persons, except ministers, who receive pay for professional services, —opticians, dentists, pharmacists, veterinarians, lawyers.

Fellowship Handpiece

Simple in Construction

Can be taken apart to oil without the use of a screwdriver.

Easy of manipulation.

CLEANLY

Has Perfectly Balanced End Bearings, Absolutely True Running.

LONG LIFE

Sold with Absolute Guarantee for One Year

PRICE

\$7.00

NOTE—Our Certificate accompanied each Handpiece, and for customers' protection we ask that the same will be properly indorsed and returned to us promptly.

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DENTAL PROTECTIVE SUPPLY CO.

Chicago

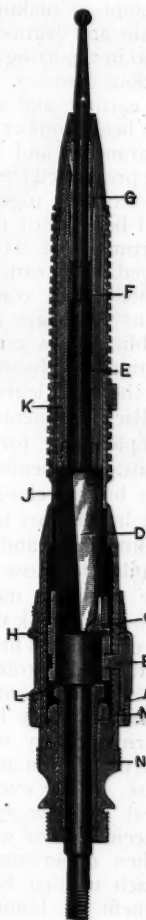
Illinois

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LEADING DENTAL DEALERS EVERYWHERE



Complete External View



Internal Sectional View

teachers, engineers,—must be able to render good service. If the public is to receive the full benefit of the State Department of Health, individual practitioners of medicine must co-operate. They should be prompt in making reports of births and deaths and especially so in reporting cases of contagious diseases. They should be earnest and active to aid the health officer in enforcing quarantine and carrying out the prescribed treatment. Only by working together can the full benefits of the State Department of Health be secured. In order that these benefits may continue, physicians must take an interest in public affairs, especially in selecting or influencing members of the state legislature.

Rich, influential, educated people have formed associations, the members of which are busy seeking to degrade the healing art to a system of mummeries and incantations similar to those practiced by the medicine men of savage tribes, to break down the wall of educational fitness that does and should protect the public, to embarrass and even prevent the study by animal experimentation of the cause, the prevention and cure of disease. They even seek to repeal the law compelling the vaccination of school children, when experience and reason teach us that to get the full benefit of Jenner's discovery for the prevention of loathsome and dangerous small pox the state should insist on the vaccination of every person

within its borders, as do several European governments.

In our legislature of 1911, there were bills introduced—to interfere with the educational qualification of veterinarians, dentists, pharmacists, lawyers—

Six bills to investigate, regulate or abolish experiments on living animals—

Two to abolish vaccination in schools—

One making it a misdemeanor to vaccinate anyone who has, or whose parents have, conscientious scruples against it.

One to compel physicians to report on every death certificate if, or not, any serum treatment has been practiced on the patient within six months.

Also one to compel physicians when writing a prescription, to state the age of the patient, if a child; penalty—a fine not less than fifty dollars.

To compel druggists to copy the prescription on the label, and to certify to the identity of the doctor, etc. Enough of details to double the price of medicine to the patient.

It is to the credit of the steady thinking men of the legislature that none of these bills became laws, though one passed both houses, and the profession are indebted to Governor Dix for a wise veto. On several of these bills the vote was so close as to cause the friends of good legislation much anxiety and stimulate them to increase their efforts. The Department of Health



Be sure the next spittoon is a

CLARK

You will be glad for a long time if you make that decision.

Prices to suit you, too.

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A. C. Clark & Company

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was frequently appealed to and always responded promptly with instructive statistics and convincing arguments. Dr. Simon Flexner, Director of the Rockefeller Institute for Medical Research, was a powerful advocate against the anti-vivisection bills. The chairman of the Senate committee on Public Health, Senator Murtaugh, stood like a rock for good and against vicious legislation.

The legislature enacted many good laws; among them are: Establishing the hospital for malignant diseases (cancer laboratory) in Buffalo.

Forbidding the indiscriminate sale of hypodermic needles and syringes.

Changing the method of making death returns, so that the undertaker has the responsibility, except as to the cause of death.

Regulating cold storage warehouses as to the reception, stamping and sale of products. And most important of all—

To prevent the pollution of the waters of the state.

So on the whole the enthusiasts have not gotten the better of it thus far, but they are active and in earnest and I suspect some of them think they are right. They are circulating literature and making speeches at fairs and indeed wherever they can get an audience. Said one lady: "God has given me a voice to plead for the poor dumb animals who cannot speak for themselves." Such expressions uttered in a sweet voice

by a beautiful woman, with graceful appropriate gestures and glistening eye have an effect on the average legislator though he may be aware that the maid in the auto is caring for a poodle instead of a baby. Sympathetic humanity is a lovely trait in any character, but why exercise it to embarrass and stop operations intended to find means of saving human lives and preventing suffering and not think or speak of those hundreds of thousands of vivisections, often very crudely performed without anesthesia, the object of which is to produce more palatable meat, gentler horses, and lambs' fries for breakfast?

There is a real danger that some day, by law, our vaccine and antitoxin productions will be stopped and the important and valuable experiments ended because a few comparatively worthless animals are destroyed. It will not do for the physicians to settle down with the consciousness that they are doing everything they can to perfect themselves in knowledge to be used for the benefit of humanity and to assume that everybody knows it and approves of it, as they ought. They cannot afford to be indifferent in public affairs. Resolutions passed at your society meetings are all right, but the lawmaker may never see them or if he does the chances are fifty to one that he does not read them, or should he read them he will say or think: "Of course the doctors object

A Warning to the Profession

Actual experience in the mouth, all over the country, has shown the **GREAT DANGER** in the **SLOW SETTING** liquids of some silicates.

The very large amount of free acid in such cements works through the dentine and injures the pulp. The improper setting also makes poor margins, broken crystallization and causes shrinkage.

If you have been **TAKING CHANCES** with one of these imperfect silicates, **EXCHANGE IT AT ONCE** for something you **KNOW** has made good.

Wonderful claims for unknown or worthless material do not **GUARANTEE YOU AGAINST TROUBLE**. Such silicates have been palmed off on you in the past few years. Much was claimed for them, but what did **ACTUAL RESULTS IN THE MOUTH COST YOU?**

Aschers Improved Artificial Enamel has a **PERFECT FLUID**, that **SETS** within a **REASONABLE** length of time, and it makes a filling that **YOU KNOW** has lasted for eight years.

Our material contains **PATENTED INGREDIENTS** that are **ABSOLUTELY NECESSARY** in a **SUCCESSFUL** silicate. No other manufacturer is permitted to use these **INDISPENSABLE** minerals, much as they would like to.

You may test **OUR** silicate with other cements in **ANY** manner you wish, either **IN** or **OUT** of the mouth. **WE** are not afraid of **ANY FAIR** tests. If tests are honestly made you will understand **WHY** we outlive the imitations.

Don't pay attention to any **SYMPATHY GAMES** or **HARD LUCK** stories in selling Silicates, but look for **ACTUAL RESULTS**. They are of **VITAL INTEREST TO YOU**. Send for Free Sample of Ascher's Improved Artificial Enamel for Testing Purposes with Other Silicates.

Almost everyone is trying the **LIGHTNING Disks** and **Strips**. Are you among the Progressive dentists?

THE PINCHES DENTAL MFG. CO.

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Pressed Steel Furniture

is as much better than wooden furniture, as pressed steel cars are better than wooden ones.

Each joint and seam of the Cabinets we build is welded by an electro-acetylene process that makes the Cabinet into a seamless steel box.

The enamel we use is baked on in a furnace and under our improved method of manufacture, will neither rust, scale nor craze.

Why put your money into furniture your patients don't see?

Send for the Book

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to being shown up." Better than these is a conversation with the candidate explaining vivisection and vaccination, why they are practiced and what we hope to gain by them, with a hint as to what the members of the profession expect of him. If he is already elected to represent you, the views of a trusted family physician, no matter to which party he may belong, will go a long way to form and fix an opinion in the mind of your senator or member, which will influence his vote for good medical and educational legislation.

"Eternal vigilance is the price of Liberty." Constant watchfulness and effort must be exercised to prevent vicious and to promote good legislation.—*New York Health Bulletin.*

HAROLD KNOWS THE SIGNS

Five-year-old Harold's sister was in the habit of making a good many demands on him. Generally her requests for favors, usually the running of errands around the house, were prefaced by what she considered subtle flattery.

"Now, Harold," she began one day, "you're a dear, sweet little boy, and you know I love you —" but Harold cut her short.

"Well, Ethel," he said earnestly, "if it's upstairs, I won't go."—*Lippincott's Magazine.*

WHO WANTS WILEY FIRED?

Who wants Wiley fired?

"I," says the can of nearly tea.
"Just look at what he did to me.

He or I must be retired.
So, I want Wiley fired."

Who wants Wiley fired?

"I," says the case of almost cheese.

"Once I lived a life of ease,
But now this fellow makes me tired,

So, I want Wiley fired."

Who wants Wiley fired?

"I," says the ham that's acid cured,

"This buttin' in can't be endured.

The wonder is that he was hired.

Sure, I want Wiley fired."

Who wants Wiley fired?

"I," says the masquerading jam,

A product he has tried to damn.

"Get rid of him!" is what I wired.

Yes, I want Wiley fired."

Who wants Wiley fired?

Why, all the bogus foods and drugs,

And all the germs and microbe bugs.

There's nothing quite so much desired

As to see Wiley fired.

—*New York World.*

Codrenin

VALUABLE ANESTHETIC, ASTRINGENT
and HEMOSTATIC

THIS preparation has effectually demonstrated its usefulness in dental surgery and won for itself an assured place in the esteem of practitioners.

Codrenin unites the remarkable anesthetic property of cocaine with the equally pronounced astringent and hemostatic properties of adrenalin chloride. It prevents and alleviates pain; it mitigates bleeding. It is



Invaluable in Tooth Extraction

AND OTHER OPERATIONS.

When **Codrenin** is injected into the gum or subcutaneous tissues, the adrenalin of the formula renders the part almost bloodless, a condition existing sometimes for hours. The circulation of the blood in the part being thus suspended in a measure, the action of the cocaine is localized, anesthesia is rendered more lasting, and the danger of toxic effect is minimized.

Two Formulas:

- R "A":** Each fluidounce contains Cocaine Hydrochloride, 9 1-5 grains (2%); Adrenalin Chloride, 1-36 grain (1:15,000); Chlorotone, 2 1-4 grains.
R "B": Each fluidounce contains Cocaine Hydrochloride, 4 3-5 grains (1%); Adrenalin Chloride, 1-12 grain (1:5000); Chlorotone, 2 1-4 grains.

Supplied in one-ounce glass-stoppered bottles.

It is safe to say that the dental practitioner who once uses **Codrenin** will never thereafter willingly be without it.

SUPPLIED BY ALL DRUGGISTS.

List price, per bottle, \$0.60.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

HOW TO PREVENT ANY DECAY OF THE TEETH

By LOUISE SCUDDAY

The tendency of all humanitarian endeavor today is toward prevention of evil. In sociology we no longer rely upon efforts to reform the hardened criminal; we have turned our attention to the child, to save him from the ways of crime. In medicine we no longer only drug and physic the sick; we teach the well how to keep from getting sick. The basic idea of modern sanitation also is prevention, rather than cure. Modern dentistry is no exception to this rule; instead of merely filling holes in decayed teeth or removing them when beyond repair, the higher endeavors of dentistry look to the prevention of decay. Its effort is to teach such care of the mouth as to prevent all disablement and loss of teeth. As long as people are left in ignorance of the fact that proper care will prevent the suffering due to bad teeth, the present conditions of discomfort and disease will continue.

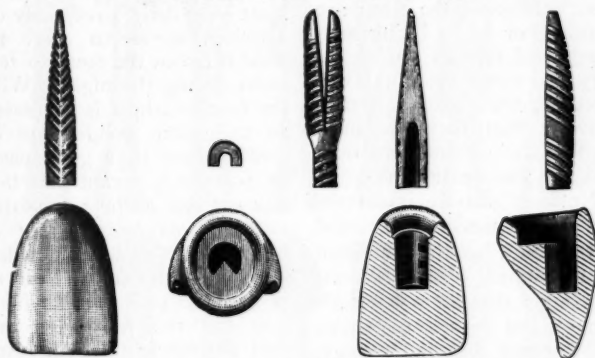
There is a popular and fallacious belief that indigestion and medicines spoil the teeth. Don't believe a word of it! It is merely a plausible, sounding excuse for the very evident results of neglect. If you have indigestion or have

to take medicines for other ailments, then you must simply give that much more care to your teeth. The care that is sufficient for one set of teeth is wholly inadequate for another. But given the care that your particular set of teeth demand, you undoubtedly can preserve them to be a comfort and solace to you in your old age.

It is entirely possible today to prevent our children from ever having a cavity in their teeth, and ourselves from ever having any more. How is this done? Simply, by going once a month to what is known as a prophylaxis specialist (prophylaxis being just the highfalutin way of saying prevention), and having the teeth thoroughly cleaned, and then taking such daily care of them as is outlined farther on in this article. The ordinary dentist is as a rule too busy patching up old teeth or putting in new ones, to give the time and attention necessary for properly polishing those that need nothing more than polishing. The specialist also uses finer instruments than does his brother of the drill and forceps, which enables him to remove tartar that may form far up on the tooth beneath

The Justi "Detachable" Pin Crown

Patented March 6, 1900. D. R. G. M. 119559.



Distinct features are embodied in the construction of the

JUSTI DETACHABLE PIN CROWN

The pin is made of Platinum and Silver, which is tough, strong and durable, and it is of the correct shape for the root canal. It has a groove at the base, which fits into the horseshoe-shaped recess of the porcelain crown to prevent rotation:

Pins are made in three sizes, also split pins for bifurcated roots.

The distinctiveness of shades and molds gives them that realistic appearance when placed in the mouth.

*Easily adapted
Strong in construction
Natural in appearance*

Send for booklet showing complete line of molds.

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If your dealer cannot supply them, order direct

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the gum, and where a coarser, blunter instrument would not reach, or if it did reach would lacerate the gum and cause pain. It is this growth of tartar under the gums that irritates them and makes them bleed whenever the teeth are brushed, or when biting anything hard like an apple. In very bad cases the gums will bleed at the slightest touch, showing that they are in a high state of inflammation, and will even exude pus.

Nothing is more important for the possession of good teeth than a healthy condition of the gums. What is known as Rigg's disease will attack a neglected mouth, the gums will become soft and spongy, will loosen their hold on the teeth and the latter will naturally drop out. The most glittering teeth that ever flashed a challenge to the eye are worse than useless anywhere but in the mouth that grew them. Hence we want to look well after the gums that hold them safe and fast where they will do the most good. Somehow this reminds one of the old darkey who said he would rather be killed in a railroad accident than in a steamboat explosion for the very illuminating reason that when one is killed on a railroad train "dar you is," but when one is blown up on a steamboat "whar is you?" If the teeth decay you can have them filled and "dar you is," but if your gums refuse to do their manifest duty of hanging on to your teeth "whar is you?"

How to Take Care of the Teeth

To the monthly attention of the prophylaxis specialist we must add our own efforts with the toothbrush and dental floss, using the former night and morning, and the latter at least once daily, preferably on retiring, so as to leave no food between the teeth to ferment during the night. With the toothbrush, it is necessary to use some good paste or powder, and by a good paste or powder is meant *one that has not one particle of grittiness or roughness about it*, but is as soft as a face powder, so that if you put a little of it into the palm of the hand you can rub it around and feel absolutely no grit. Any roughness, while it may for the time give extra polish to the teeth, will surely injure the enamel, and so far as we know, that is the one part of the human body that never renews itself, but once destroyed is gone for good. However, the modern dentist is able to create for the preservation of the tooth a species of false enamel somewhat analogous to the callousness that forms on the skin when subjected to continued friction, and which is produced in much the same way. Any polishing that is to be done with pumice stone had better be left to the dentist, for he knows when to stop. When running the dental thread between the teeth (and by the way, the waxed variety of floss is preferable) it is not enough to pass it loosely back and forth to dislodge any

Ivory's Spiral Leaf and New Process Burs



To produce a bur that will cut enamel and one that will cut rapidly without heating in the cavity has been the principal aim in making the Ivory Burs. The blades are cut at the proper angle to hold their edge for the longest time. The teeth on the blades of the Spiral Leaf Burs are arranged in spiral form around the head of the bur so not to follow each other in a straight line. By this spiral arrangement one of the teeth on the blades of the bur is always just slightly in advance of the others, doing its work and clearing the way for those following it, so that a new face of the bur is constantly acting upon the surface to be cut. Due solely to this kind of a cutting process, the cutting edge of the bur running in opposite direction to the spiral, the cutting is very rapid, friction is overcome, pain diminished and the margins are left as smooth as can be made with any instrument. These are the highest-priced burs on the market, but their lasting qualities, rapid cutting, and overcoming that heating sensation when drilling in those very sensitive places, makes them the cheapest bur to use. When cutting dentine it is better if the cavity can be kept dry.

Ivory Spiral Leaf Burs, per doz	\$ 2.00
Ivory Spiral Leaf Burs, per half gross	10.50
Ivory Spiral Leaf Burs, per gross in case	21.00
Ivory New Process Burs, per doz	1.50
Ivory New Process Burs, per half gross	7.50
Ivory New Process Burs, per gross in case	15.00

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PHILADELPHIA

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particles of food; it must be pulled firmly against each tooth in turn and slid back and forth where it is impossible for the brush ever to reach.

The Department of Health of the city of New York has issued a leaflet to the parents of all the public school children, which contains directions for the care of the children's teeth, and in this leaflet the following formula for a good and cheap tooth powder is given:

2 oz. powdered precipitated chalk.

½ oz. powdered castile soap.

1 dram powdered orris root. Thoroughly mix.

This prescription can be filled by any druggist at a cost of not more than fifteen cents.

How the bacteria that find lodgment in the mouth cause decay of the teeth is really quite interesting. It seems that these microscopic beasts can get a foothold on the tooth only when there is some roughness, like tartar or an accumulation of tiny food particles. Hence it is easy to see why keeping the teeth polished is so necessary for the prevention of decay.

If through your carelessness, however, this minute mischief maker once gets a hand up, so to speak, he has everything his own way, for nature has provided him with the wherewithal to actually glue himself on. There he is and there he stays, merely by exuding a kind of gelatinous fluid that holds him snug and

tight and allows him to pursue his destructive trade in peace, and nibble our one and only enamel in leisurely comfort. Having bored a tiny hole in the hard surface of the tooth and wormed himself into the softer structure beneath, it is a simple matter for him to eat up nearly a whole tooth before he is discovered, leaving us only an enamel shell with an aching void inside. The monthly polishing, however, prevents his ever getting very far on his career of grand larceny, if he is even permitted to begin house-breaking, which is unlikely if proper care is taken. The foremost specialist in this line, the father of prophylaxis work, has, by means of the treatment herein outlined, *taken children from the age of five to the age of twenty without a single cavity having appeared in their teeth.* If it is possible to prevent decay for fifteen years, it is possible to prevent it indefinitely.

Mischief Wrought by Bad Teeth

The question of the relation of the teeth to the rest of the body is one that is constantly occupying more and more of the attention of the best men in medicine as well as in dentistry. There can be no doubt in the mind of any thinking person that to have a mouth full of teeth that are merely hotels where are harbored guests, both transient and permanent, of the germ family is bound to mean disease of the body sooner or later. The transient guests

YOUR BEST FRIEND

There is no other object so intimately connected with your life as your dental cabinet. You are using it almost every

hour of every working day.

And its conveniences, or its lack of them,

probably have more effect on your work than you have ever realized.



No other investment will pay you as well as a first grade cabinet. Many dentists prefer the low cabinet shown in

the illustration, with its quiet elegance.

We want you to have a copy of our catalog so you can read the description of this superb cabinet. Send for a copy now. A card will bring it and easy terms of payment.

To Insure Prompt Attention, Address

The American Cabinet Co.

Department F.

TWO RIVERS, WISCONSIN



The Kiddie sticks his finger in his mouth to show you which one hurts and then hangs on to the arm of your chair until you get through with him.

Fine business for the next patient, isn't it?

With the

Porcelain Enamel Arms

You wipe them off just like you would a bath tub and reduce the risk of infection to the minimum.

\$5.00 the Pair

ALL DEALERS

LEE S. SMITH & SON CO., Pittsburgh, U. S. A.

wend their way onward to the throat, the lungs, the stomach, wherever their fancy calls them; they go into the lymph glands also, and thence find a highroad into any part of the body that they choose to explore. The permanent guests, not being fond of travel, stay where they are and make things lively and attractive for their brethren of the restless feet and the adventurous spirit, their way of doing this being to cause as much trouble and devastation in the teeth as they possibly can.

Bright's disease, diabetes, tuberculosis, sore throat, indigestion, and appendicitis are some of the ways that the migrating germs have of gently hinting at their presence.

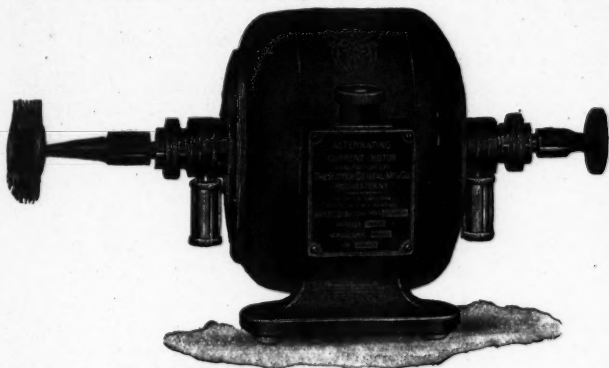
Many cases of Bright's disease, diabetes, and stomach trouble have been immensely benefited and helped along toward ultimate cure by putting the gums in a healthy condition. The reason is clear. The abscesses at the roots of the teeth throw off poisons which when swallowed are absorbed by the blood, deposited in different parts of the body and contribute to the diseases named, and it naturally follows that conditions are ameliorated when the offending abscesses are healed.

Mouth Washes

The mouth, however, is not by any means the only port of entry for these germs, but it is a very likely one, and one

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THE COLUMBIA Alternating Current Lathe



is the only dental laboratory Lathe for that current with the proper regulation of speed. It also has very slow speed for guiding, with plenty of power.

It will not heat and takes less electricity running free, than any other motor of equal size on the market, consuming less than a 16 C. P. lamp.

It has four speeds, each one indicated as the graduated button on front is turned, with a range from 1200 to 3200 revolutions per minute, depending somewhat on the alternations for which the motor is designed.

It starts instantly with a turn of the button and there is no resistance employed to regulate the speed, consequently the heating effect of this is entirely absent and burn-outs completely eliminated.

It will run an air pump nicely and 80 to 100 pounds pressure is easily obtained.

There are over 5,700 of the Columbia A. C. Lathes in use and you will be absolutely sure you have the best possible make when you get one.

Place your order with your dealer now for one of these lathes, and you will be delighted with the sense of relief from the present foot lathe drudgery you will experience.

The Ritter Dental Mfg. Co.
ROCHESTER, N. Y.

"Vapor Cured" Rubber Dam Keeps for Two Years

My "Vapor Cured" Rubber Dam is manufactured under improved processes which enables it to retain its full life and strength for two years.

Nothing but the highest grade of carefully selected Para Rubber is used in making this Dam.

Its strength and elasticity cannot be equalled and it always gives the best of satisfaction, even under the most trying conditions.

You can't obtain Rubber Dam superior to my "Vapor Cured" for the reason that it cannot be made.

"Vapor Cured" costs a trifle more than others but its worth it.

	Yard Roll	Half Yard Roll
Medium Weight, 5 or 6 inches	\$2.15	\$1.10
Thin Weight, 5 or 6 inches	1.60	.80

Sold Everywhere

Address all communications to Dept. B.

EUGENE DOHERTY

110-112 Kent Avenue

Brooklyn, N. Y., U. S. A.

that we can easily guard. An antiseptic mouth wash is excellent ammunition in this war against invading germs, but be sure that the one you use is antiseptic. Two widely advertised preparations highly recommended as a mouth wash and nose and throat spray, were analyzed a couple of years ago by the American Medical Association and shown to contain hardly one drop of antiseptic, and so far as any germ-killing properties are concerned one might just as well have used so much water, which last has at least the advantage of being cheap. One of these preparations was white and fragrant, and the other had a lovely purplish color, a most agreeable odor,

and a sweet, pleasant taste: everything to recommend them save real efficiency as a germicide. They had, and yet have, a large sale, and are no doubt of great spiritual comfort to their users! Bicarbonate of soda (ordinary cooking soda) is an excellent mouth wash, as it neutralizes the acids that the fermentation of food produces, and that is most injurious to the enamel. A teaspoonful dissolved in half a glass of water is a sufficiently strong solution. This, however, is not an antiseptic; but a very good home-made germ killer can be made by dissolving in water as much boric acid as the water will hold, that is, keep putting in the boric acid until

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THE TETER IMPROVED GAS APPARATUS

The Teter Improved Gas Apparatus No. 2 is the most scientifically developed and thoroughly equipped apparatus for the administration of nitrous oxid and oxygen ever invented.

There is no guess work with the Teter Apparatus. Results are absolutely sure and certain. It is the production of an anesthetist who has spent his lifetime in administering nitrous oxid and oxygen. Nitrous oxid and oxygen has been administered with the Teter Apparatus over 250,000 times.

Continued anesthesia is as easily maintained with the Apparatus and Nasal Inhaler as it is with the Apparatus and Face Inhaler.

Most Dentists are familiar with what can be done during the analgesic stage as produced with the Teter Apparatus and many are eliminating pain entirely from all their dental work by this method.

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The Teter Gas Apparatus is being used by thousands of Dentists and is considered by them as being the greatest practice builder in their offices.

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Best results obtained only when using Teter Nitrous Oxid and Oxygen with the Teter Apparatus.

Write us for catalogue and literature, giving us at the same time the name of your dealer.



THE TETER MANUFACTURING CO.

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Cleveland, Ohio

Dr. J. G. Wilson's Local Anaesthetic



All For \$1.00

Express Prepaid

3 boxes Ampules (12 each)	\$2.25
1 one-ounce bottle . .	.60
1 cut glass container .	.40
Actual Value	\$3.25

If you have already taken advantage of this offer do not send again, your money will be returned.

Dr. J. G. Wilson's Improved Local Anaesthetic

Has been used around the world for twenty years and is

Time Tried and True



Price: In 1 and 2-Ounce Bottles. 1 oz., \$.60; 6 oz., \$3.00; 12 oz., \$5.40; 24 oz., \$9.60; In Hermetically Sealed Tubes. 1 Box, \$.75; 6 Boxes, \$3.75; 12 Boxes, \$6.75; 24 Boxes, \$12.00.

CENTRAL CHEMICAL CO., 300 Main St., Springville, Erie Co., N. Y.

no more will dissolve and you get a sediment in the bottom of the glass. Another excellent wash, but one that is not very pleasant to the taste is a solution of one part of peroxide of hydrogen to two parts of water. However, if pus is not present, this is very harmful if used continually. These mouth washes are all cheap and efficacious, if not delightful to taste and smell, but one can buy excellent preparations that combine real usefulness with a pleasant taste. However, the use of any of the suggested mouth washes may prove injurious under certain conditions if too long continued, hence it is wise to use the above only until a competent

specialist in this line may be consulted.

Anyone who has ever enjoyed the comfort of having the mouth and teeth in a really sanitary condition will never be happy to have them otherwise. It is a horrible thought that we may be carrying around in our mouths all sorts of germs of dreadful diseases, and continually swallowing pus (forgive the word, reader, but no other tells the real facts) that diseased gums throw off. How can a person be healthy or have a good digestion who is allowing such stuff as that to go into their stomach with every mouthful of food? And yet look at the carelessness in this matter that the majority of people

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¶ If we told you we had a preparation you could insert in a tooth that made it possible for you, any time after twenty-four to forty-eight hours, to cut the tooth all to pieces without your patient feeling it—if you do not know what VELVO PHENOX is—you would probably consider us as candidates for the Ananias Club.

¶ We not only make that unqualified assertion, but we are prepared to prove it at our risk.

¶ If you will write your name on your professional card and mail it to us, we will send you, all charges prepaid, a full size package of this material and you may try it for thirty days, and at the end of that time either pay what it costs—\$1.50—or return the unused portion to us.

¶ This material positively will NOT injure pulp or gums.

¶ It is the greatest dental discovery for a generation.

¶ It means literally PAINLESS DENTISTRY.

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BRITTON'S VITRIFIED CEMENT

It saves you money on its initial cost

It saves you annoyance by working just right

It saves your reputation by its strength and durability

It is made in nine shades, and a large one color box

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W. OGDEN BRITTON

483 W. State Street

TRENTON, N. J. U. S. A.

show. People who would not dream of sitting down to a meal with dirty hands will be perfectly content to eat all their meals with a mouth and teeth in comparison with which the dirtiest hands would be clean and sanitary. Those who make the biggest "to do" over the innocent gambols of a fly in the butter, or grow faint at the sight of a mosquito in their tea, may be the very ones whose mouths could give answer to the roll call of every germ in the calendar. But what they don't see they don't mind.

Why is the mouth such an excellent breeding place for germs of every description? Because it supplies the two es-

entials to decomposition—namely, heat and moisture, and the only way to be safe from disease breeding presences is to keep the teeth so clean and polished that if a germ by any chance alight on a tooth he will either starve to death or slip up and break his neck!

The most careful surgeons today will not perform any operation requiring abdominal incision until the mouth and teeth are in good condition, such is their belief in the possibility of infection through the mouth. And the invalid or lazy folk who take their breakfast in bed without first washing the teeth are handing on to their stomachs a lovely

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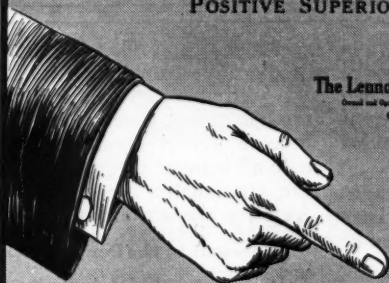
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AN ANESTHETIC

that has created its own demand
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The Success of

DR. R. B. WAITE'S ANTISEPTIC LOCAL ANAESTHETIC

For the Painless Extraction of Teeth

is due to these two—*QUALITY* and *UNIFORMITY*. These are the foundations on which its reputation has been established and maintained, until now it is the *STANDARD* by which all others are gauged.

One of the Best Proofs

that it is superior to all other similar preparations is the fact that during the last seventeen years it has been used in

Millions of Cases

in nearly every country in the world, without a single fatality ever having been reported from its use.

To prove our claims we will furnish you

FREE FOR TRIAL

a full ounce dollar bottle or box of 12 hermetically sealed ampules, upon receipt of \$0.25 to cover the expense of packing and postage. **Send for Literature and Prices.**

THE ANTIDOLAR MANUFACTURING CO.

80 MAIN STREET, :: SPRINGVILLE, N. Y.



lot of matter that forms on the teeth and gums during the long hours of the night, when to the heat and moisture of the mouth are further added darkness and stagnation.

The most notable advance that the science of dentistry has made is in the direction of straightening teeth and restoring the normal shape to an abnormal jaw. The specialists who do this work are known as orthodontists; their results are simply wonderful, and the value of the work cannot be overrated. For to have our teeth where they really belong is a measure that makes not merely for beauty but for health as well. If the teeth do not meet properly we cannot thoroughly chew our food and

consequently develop all sorts of digestive troubles. And if the teeth project so far that the lips cannot cover them, we become mouth breathers, inhale all manner of germs, and are continually becoming infected with various diseases.

Farewell to the Dentists

It is the belief of modern dentists and of many medical men as well, that in time there will be no more dentists, but only orthodontists, and prophylaxis specialists. For if the teeth of a child are kept clean and in place, they will never decay and necessitate filling. Nature intended the corners of adjacent teeth to come in contact, and if they do so no food lodges to cause decay.

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Service is a Commodity—You Are Selling Service Ethically Now, Doctor, How is Business?

If it is not good we can help you. If it is good we can make it better.

We are not trying to commercialize your profession. Neither do we overlook the difference between selling service and selling groceries or Crown and Bridge Work, for instance; but your Crown or Bridge is worth very little to either you or your patient unless it represents a high degree of service rendered.

Covering up a tooth is one thing—Crowning it is another
Just the difference between good work and guess work



THE SHARP SEAMLESS CROWN OUTFIT

Represents the service class by insuring

**Adaptation—Articulation—Contact—Contour
Strength and Accuracy
Beauty and Efficiency**

Speed is incidental but it is there.

We find it difficult to keep up with the constantly increasing demand for the Sharp System. There are Thousands in use. Are you one of the users? If not you had better get your order in at once. *Our book free.*

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99 Per Cent Perfect

Is the score our products make with the dentists. If you, Mr. Dentist, are not now using our goods you will regret it some day. Don't delay longer. Read this sample:

Enid, Oklahoma, January 29, 1912.

Dear Sir:

I have been using Metalline ever since it has been on the market in crown and bridge-work, but more especially in gold-inlay work; in large cavities it beats all suction carvers, etc., as a gold saver. Another use it can be put to is in filling up under cuts in diastoric teeth. For cast backing in bridge-work I find that a number of Dentists are not taking advantage of this and do not realize what a saving in labor and dollars it is to them. I WOULD NOT BE WITHOUT IT IF IT COST \$10.00 A BOX.

Yours very truly,
H. L. ENTRIKEN, D. D. S.

Order our products through your dealer or from us direct. Everything we make we guarantee. You can't lose.

Metalline \$1.00 per box.
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METALLINE MANUFACTURING CO., 1212 O St., Lincoln, Neb.

But if the teeth are crowded they rotate, and their flat surfaces meet, giving lodgment to food and inviting decay unless the most rigid care is exercised. The thought of doing away with the much-dreaded dentist with his awful drilling machine and his horrid forceps seems almost too good to be true, but this delectable dream would soon be an accomplished fact were the system of tooth insurance herein described adopted by everybody. Another plea for the work of the orthodontist is the fact that a number of cases of insanity and neurasthenia have been found to come from what is known as impacted teeth, that is, teeth that have grown in crooked

and are pressing against a nerve and causing inflammation. These cases have been cured on the removal of the offending teeth.

When all is said and done, however, in favor of the well-furnished mouth and the glittering smile, there is still a word to be said in defense of toothlessness, for it would appear that there are some callings in which the lack of proper grinders is a positive advantage, if one is to believe the story of the man who was bragging on his brother's musical ability. Said he, "My brother, Jim, plays the bass drum better than any man that ever lived, and he hasn't a tooth in his head!"—*Good Housekeeping Magazine.*

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The Evslin Smile— It's Contagious

IF the Evslin Interchangeable Tooth is properly handled by the dentist, no gold is visible.

The patient smiles because the work is better than she expected, and there were no tedious waits—but the smile is "pearly"—not "golden."

And the Evslin is so easy for the dentist to handle that, unless he's a chronic pessimist, it's a safe bet he'll smile too.

No investing or soldering process is required with the Evslin. Handle it like a pin tooth, make your own backing, put it in place, and attend to the next patient.

The Evslin Self-Protecting Facing



Anterior teeth can be ground at the bite at any angle suitable for the case. The tooth slides into position over the bite and gives protection without showing gold.

All porcelain cusps on posterior teeth. The Evslin is the only practical interchangeable porcelain cusp posterior tooth on the market, and its exceptional strength is one of its highest recommendations.

Send NOW for FREE booklet—gives detailed description.



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10 Days Trial

of the Automatic Operating Stool is offered to every dentist in the world.

We want you to use one of these stools for at least 10 days and find out how much easier it is to operate when sitting down.

The Automatic Operating Stool

enables you to do better work because you can sit down at your work and have entire freedom of action, thereby conserving your energy for your finger tips where it is most needed.

Any dealer will be glad to sell the stool to you on 10 days trial. If you don't like it for any reason we will buy it back from you for the full price you paid for it, and pay for carriage both ways.

Price in Black Enamel \$15.00

White Enamel \$1.00 extra

LEE S. SMITH & SON COMPANY

Pittsburgh, U. S. A.

CHEAP BUBBLE FOUNTAINS

Those interested in abolishing the common drinking-cup have often encountered the difficulty of expense in the installation of the drinking fountain with the bubble cup. Two eastern cities offer inexpensive solutions of that difficulty. In one, in which the common drinking-cup was forced out by state laws and immediate compliance was necessary, the simple expedient was resorted to of merely removing the cups in all public places and *turning the faucets upside down*. In this position, when turned on, the tip of the faucet formed a "bubble cup" and was found

satisfactory enough to be continued permanently as a drinking fountain.

The other method consists of a straight metal arm about eighteen inches long connected with an ordinary faucet, the arm being a plain piece of piping with a cup-shaped tip for drinking purposes. A more elaborate form of this arm-extension to an ordinary faucet provides a double pipe, one enclosed in the other, the smaller pipe taking the water to the cup at the tip, from which the waste water is carried back in the larger pipe to the waste pipe. There is thus no overflowing at the cup-tip of the arm as there is in the other methods.

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A BOON TO DENTISTRY

**30 YEARS
A
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MUMMO

**THE
SAVIOR OF
MOLARS**

IS THE ONE AND ONLY UNDIS-
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SOME REASONS

Thirty years of successful application.

Thirty years without a come-back.

**Does away with laborious molar root-
canal work.**

**Saves you from one to three hours hard
work.**

**Takes five minutes to apply and com-
plete filling.**

**Elimination of abscesses (due to unre-
movable filaments.**

**Shortens patient's sitting—lengthens
your income.**

Relieves strain from your eyes and back.

AFTER A LAPSE OF FROM TWO TO FIVE
YEARS, TEETH HOLDING "MUMMO" WERE
EXAMINED. THE PULP WAS IN A PER-
FECT ASEPTIC CONDITION, RANGING
FROM A LEATHER-LIKE CONSISTENCY
TO A PETRIFIED STATE.

PRICE \$2.00. MONEY-BACK GUARANTEE

*Have Your Sup-
ply House Order
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MUMMO CHEMICAL CO.

Indianapolis, Indiana

ASK THE MAN WHO HAS TRIED THEM ALL WHY
ALVATUNDER
WORLD'S STANDARD
 IS THE ONLY LOCAL ANESTHETIC HE USES NOW
YOUR DEALER SUPPLIES



When you can buy this snowy white **Opal Glass Tray for 40 cents** it isn't fair to your patients to keep your instruments in a place that isn't as clean as only glass can be.

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A Speedy and Sure Remedy for Alveolar Abscess
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Immediate Disinfection and Filling of Putrescent
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It instantly deodorizes and disinfects all decomposition, no matter how offensive; destroys and neutralizes all poisonous gases arising from decayed animal or vegetable matter. \$1.00 per package. All dealers.

Manufactured by
J. A. WILLIAMS, D. D. S.
 Fort Wayne, Ind.

GUMMED THE CARD

"Giles," said De Whizz to his chauffeur, before he started on his run across the state, "have you oiled the machine thoroughly?"

"Yes, sir."

"Are you sure, Giles?"

"Yes, sir. I have filled the spring cups and the engine reservoir, and I have greased the cornet-a-piston, the pluri-bus unum, the exhaust pipe, the muffled thread, the thing-gumbob, the rigamajig, and both the hot-boxes."

"Are you sure those are all the parts you have oiled, Giles?"

"Yes, sir."

"You have forgotten the

most important place of all. Take the can and squirt a few drops of oil on the license number, so that the dust will collect on it and make it hard to read. Always remember to lubricate the license number Giles."

COMPARATIVELY

A Boston woman, who attained much prominence in the campaign for woman suffrage, once said at a public meeting that she thought T. B. Aldrich was effeminate.

The remark was repeated to Aldrich as a joke, whereupon he very dryly remarked:

"Yes, so I am—compared to her."—*Success Magazine*.